



AMD Élan™SC300 Microcontroller



PRODUCT BRIEF

The Élan™SC300 Microcontroller for Handheld Computing

The Élan™SC300 microcontroller means ultra-long battery life. Integration is taken to a new level by combining an enhanced Am386® static, low-voltage CPU with the logic of a PC/AT-compatible system, along with essential peripheral controllers. With the ÉlanSC300 microcontroller, AMD® has made possible a new generation of ultra-small handheld computing devices.

Handheld computers include pocket computers, digital assistants, smart cellular phones, and portable CD-ROM players ("electronic books"). System requirements to address this market drive the need for ultra-long battery life, high processor performance, and highly integrated packaging. AMD targets this emerging market by providing a cost-effective microcontroller to run your handheld products.

PRODUCT HIGHLIGHTS

Highly Integrated Design

- Optimized for handheld systems
- Combines Am386 CPU with memory controller, PC/AT controllers, and essential handheld peripherals

Integrated PC/AT Compatibility

- Memory controller supports 16-Mbyte DRAM
- Support for SRAM, ROM, and FLASH
- PC/AT-compatible versions of 8254, 2x8259A, 2x8237A
- ISA bus controller

Enhanced Am386 CPU Core

- 33-MHz operating frequency at 3.3 V
- Low-power, fully static design for long battery life

Built-In Power Management

- Multiple operating modes: full speed, low speed, doze, sleep, suspend
- Full control of system and internal peripheral clocks
- Supports suspend refresh of DRAMs
- PLL technology for clock generation

Handheld Peripherals

- 16C450-compatible UART
- EPP-compatible parallel port
- Two PCMCIA 2.0 card controllers
- LCD graphics controller
- 146818A-compatible RTC
- CPU local bus access

PRODUCT DESCRIPTION

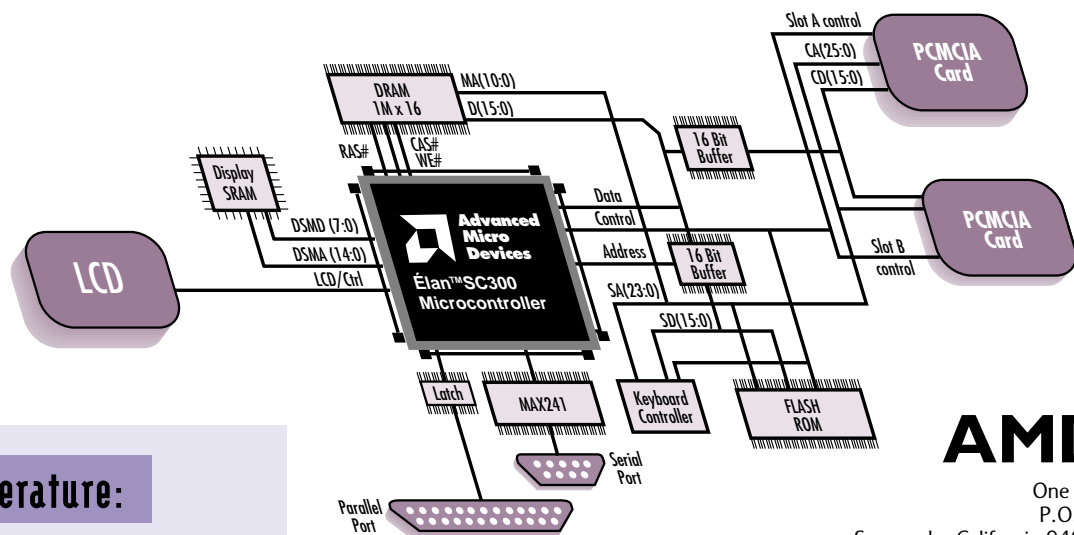
The ÉlanSC300 microcontroller for handheld computing is a highly integrated, low-voltage, single-chip implementation of a high-performance, 32-bit, x86-compatible microprocessor, plus it has the extra logic needed for PC/AT-compatible PCs. It is ideal for handheld and other battery-powered computers. It combines an Am386 CPU core with a memory control unit, ISA bus controller, and peripheral control logic, including PC/AT-compatible versions of the 146818A real-time clock, 8254 timer, 2x8237A DMA controllers, and 2x8259A PICs. In addition, the ÉlanSC300 microcontroller contains a UART, two PCMCIA (2.0) slots, a parallel port, an internal LCD graphics controller, and a local bus controller.

A highly integrated processor inherently requires less power. To increase battery life much further, the ÉlanSC300 microcontroller is manufactured in a low-power, 3.3-V submicron CMOS process. Utilizing on-board Phase Lock Loops (PPL) reduces power to enable micro

amps in the suspend state and enables 33-MHz system speeds from a single 32-kHz watch crystal. The five-state Power Management Unit (PMU) permits complete control—from full speed to suspend.

The ÉlanSC300 microcontroller runs software on *the* open computing standard—the PC/AT architecture. It is both DOS and Windows® compatible and supports handheld operating systems such as Windows from Microsoft® and GEOS from Geoworks.

All of these features and benefits are squeezed into a 208-pin plastic quad flat pack package. Functions that require additional chips on traditional processors are built into the ÉlanSC300 microcontroller. Fewer supporting devices result in a smaller, lighter, and more cost-effective handheld product. The ÉlanSC300 microcontroller is the first step in the journey to differentiation, market share, and profitability.



Related Literature:

E86 Family Comparative Features Chart	#19257
E86 Family Products Brochure	#19181
FusionE86™ Catalog	#19255
ÉlanSC300 Data Sheet	#18514
ÉlanSC300 Handheld Handout	#19206
ÉlanSC300 Programmer's Reference Manual	#18470



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